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ABSTRACT

The guide was intended to provide the information needed to implement or improve an 11th and 12th grade career education cluster program. The authors suggest that the guide will be most useful in schools where a long-range plan for career education has been prepared and adopted by the local board of education, and where it has been decided to organize the program around occupational clusters. The guide is divided into two parts and covers the phases and elements of program implementation. Part 1, six pages in length, outlines steps for implementing each of 11 program elements, such as advisory committees, personnel, and finance. Part 2 recounts the steps related to advisory committees, personnel, curriculum, work experience, facilities and equipment, youth organizations, and articulation for each of three occupational clusters. The clusters are: agriculture, accounting, clerical, construction, diversified occupations, electrical, food service, forest products, health, industrial mechanics, marketing, metals, and steno-secretarial.

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Creating Career
Cluster Programs
A Guide for Oregon
High Schools

Prepared by
CAREER EDUCATION SECTION
Oregon State Department of Education
Leonard Kunzman, Director

Published by
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Carrol deBroekert, Associate Superintendent

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FOREWORD

Throughout his lifetime every person must function in several different roles—learner, family member, citizen, producer, consumer. Each role requires distinctive skills, knowledge, and attitudes. Therefore, a comprehensive education must provide opportunities for all students to gain insights, to explore, and to prepare for each of his future roles.

Oregon's new graduation requirements are based upon this concept and specify that all districts identify the minimum competencies for personal development, career development, and social responsibility that students must demonstrate in order to receive a diploma.

Guidelines will be developed to help districts identify the basic competencies needed for entry-level employment in each of the 13 Oregon occupational cluster areas. The guidelines will also suggest procedures for student demonstration of competency achievement and methods for recording and reporting such achievement.

A total career education program should accomplish three objectives: (1) enhance awareness of self and the world of work at the elementary level in order to provide students with a basis for future choices; (2) provide, at the junior high level, opportunities to explore in increasing depth potential occupational fields; and (3) provide high school students with broad career preparation leading to employment or further education in specialized occupational programs.

This guide outlines the administrative procedures which are necessary to develop occupational cluster programs in grades 11 and 12.

DALE PARNELL, Superintendent
Public Instruction

PURPOSE

This guide has been written to provide the reader information needed for eleventh- and twelfth-grade cluster program implementation or improvement.

In some schools, the initial steps in cluster implementation may already have been taken.

The guide will be most useful where:

1. A long-range plan for career education has been prepared and adopted by the local board of education.
2. The school administration and school board have decided to use occupational clusters.

This guide is divided into two parts and covers the phases and elements of implementing occupational clusters in Oregon secondary schools.

Part I covers overall occupational cluster curriculum development and implementation.

Part II covers specific cluster implementation or improvement.

LEONARD E. KUNZMAN
State Director
Career Education

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PART I

PHASE ONE

Element I

OCCUPATIONAL CLUSTER ADVISORY COMMITTEE

- A. For each cluster, the school should create an advisory committee composed of skilled practitioners of the occupations to which the cluster relates. Such a committee insures the relevance of the curriculum to job market needs and provides a valuable link between the school and the community and the school and the occupations related to the cluster.
- B. Obtain the following books as a guide:
 1. *The Advisory Committee and Vocational Education*, American Vocational Association, Washington, D.C.
 2. *Advisory Committees in Career Education*, Oregon State Department of Education, Salem, Oregon.
- C. Select people who represent key occupations outlined in the curriculum guide for each planned cluster.
- D. Select people who represent different levels of personnel, a cross section of the community, and a cross section of the occupations.
- E. Secure local board approval and appointment of committee members.
- F. Notify prospective members by letter and personal contact.
- G. Provide orientation and in-service training to committee members.
- H. Establish committee goals and objectives.
- I. Develop operational guidelines for committee work.
- J. Schedule and hold periodic meetings.

Element II

FINANCING

- A. Administrators, instructors, and advisory members jointly develop a budget that reflects financial commitment to the occupational cluster curriculum. The budget should cover such matters as salaries, equipment, supplies, travel, in-service training, planning, and facilities.
- B. Consult with Oregon State Department of Education representatives to identify potential financial assistance available from state and federal sources.

- C. Part of the cost of career training through cluster programs will be reimbursed through state and/or federal funds. This reimbursement should be used for further development of occupational cluster areas.

Element III

PERSONNEL

- A. With help and guidance of advisory committee, hire teachers and staff with appropriate technical and teaching competencies, and appropriate credentials.
- B. Possible sources of certificated personnel include:
 - 1. Teacher education institutes
 - 2. Business and industry
- C. Refer to Oregon Rules for Certification. Contact the Career Education Division, Oregon State Department of Education, or the Regional Coordinator of Vocational Education, Intermediate Education District, about requirements for vocational certification.
- D. Place the cluster teacher on the job at least three months before the program starts.
- E. Provide in-service curriculum development training for staff.
- F. Attempt to provide staff members with time to coordinate or to direct each cluster.
- G. Establish a maximum student-to-teacher ratio.
- H. For clusters where students are involved beyond the nine-month school year, provide teachers extended contracts.
- I. Utilize an interdisciplinary approach in the cluster program by involving teachers from other subject areas in such things as team planning and team teaching.

PHASE TWO

Element IV

PROGRAM APPROVAL

- A. Secure application for approval of the vocational program from the Oregon State Department of Education, or Regional Coordinators of Vocational Education.

- B. Design the program to meet statements of assurances required by the State Plan for Vocational Education. These assurances are criteria by which program approval is determined.
- C. Submit application for approval of the vocational program to the Oregon State Department of Education.

PHASE THREE

Element V

CURRICULUM

- A. Design competency-based, individualized curriculum on the basis of the cluster guide and the guidance of the advisory committee. The Task Analysis for Determining Course Content and the Statement of Objectives, contained in each cluster guide, can be used as the basis for developing competency statements. The Required Knowledge and Skills listed in the body of each guide can be used to develop course content and identify performance indicators. Advisory committee input will include analysis of the curriculum to see that it meets job market requirements.
- B. Identify broad course objectives in the cluster and write specific performance objectives which correspond to job market requirements.
- C. Design learning experiences to help students achieve performance objectives. Plan to utilize the community as a learning resource by exposing students to work sites, skilled practitioners of occupations, and work experiences.
- D. Develop additional learning experiences through laboratories, resource centers, and special courses to support the main cluster curriculums.
- E. Arrange for students to spend the amount of time in a cluster recommended in the State Plan for Vocational Education. Before it will approve a cluster, the state generally requires that it run two hours per day or 10 hours per week (minimum).
- F. Make every effort to integrate the cluster curriculum with the general curriculum.
- G. Provide teachers time for developing and revising curriculum.
- H. Develop a written long-range plan for each cluster.

Element VI

ARTICULATION

(Articulation is defined as a progression of planned learning experiences.)

- A. Plan a progression of learning experiences for students so they can pursue their goals with no wasted time and effort.
- B. Design the cluster program to begin where awareness and exploratory experiences have terminated.
- C. Design the cluster to prepare the student to pursue these post-high school alternatives:
 - 1. Community college education
 - 2. University education
 - 3. Adult and community education
 - 4. Apprenticeship
 - 5. Military service
 - 6. Private school education
 - 7. Employment

Element VII

YOUTH ORGANIZATION

- A. Plans should be made to provide for youth organizations—such as Vocational Industrial Clubs of America (VICA)—as an integral part of the occupational cluster instructional programs.
- B. The youth organizations will be supervised by persons who are qualified as vocational education teachers.
- C. Adequate finances should be provided to supervise the youth organization.
- D. Teacher time should be provided for youth organization activities.

Element VIII

FACILITIES

- A. Determine, with the help of the local advisory committee, the type of facilities and equipment required to carry out instructional objectives.
- B. Determine how these facilities and equipment will be obtained and financed.

- C. Plan for utilization of community resources in the instructional program.
- D. Read *Career Cluster Facilities Guide*, Oregon State Department of Education. (Estimated publication date—March 1973)

Element IX

WORK EXPERIENCE

- A. With help of the advisory committee, survey the local community to determine the feasibility of a cooperative work experience program.
- B. Develop work experience programs as an integral part of occupational cluster programs.
- C. Provide time for teachers to supervise students at work experience sites.
- D. Develop a policy handbook for supervised work experience. The book should include training agreements, training plans, and other necessary forms.
- E. Identify training stations with cooperation and help from the local advisory committee.
- F. Provide supervision during the summer for students at work experience stations.
- G. Investigate possibilities of cost reimbursement for cooperative work experience. Refer to the State Plan for Vocational Education.
- H. Consult *Cooperative Work Experience Coordinators' Manual*, Oregon State Department of Education, for additional information.

Element X

GUIDANCE AND COUNSELING

- A. Plan a guidance program that incorporates a cooperative approach between guidance personnel and teachers in occupational clusters.
- B. Assist the student in identifying his career interests, determining his aptitudes, and pursuing his career goals.
- C. Provide placement services.
- D. After the student completes the program, follow his progress to help determine how well the program has met his needs.

PHASE FOUR

Element XI

EVALUATION

- A. Evaluation should be based on long-range plan and objectives.
- B. Students, staff, and advisory members should be involved in program evaluation.
- C. Also utilize outside personnel in program evaluation.
- D. Utilize assessment instruments developed for cluster programs. These can be obtained from the State Department of Education.
- E. Use evaluation results as the basis for program improvement.

PART II

AGRICULTURE ADVISORY COMMITTEE

Before beginning an agriculture cluster program, a school should establish an advisory committee of six to ten members knowledgeable in the agriculture industry.

Membership should be drawn from the following categories:

1. Farmers and ranchers
2. Agriculture businessmen
 - a. Equipment dealers
 - b. Bankers
 - c. Chemical dealers
 - d. Seed and feed dealers
 - e. Cooperative personnel
 - f. Veterinarians
 - g. Agriculture product buyers (food processors)
3. Ornamental horticulture personnel
 - a. Nurserymen
 - b. Landscape gardeners
 - c. Florists
 - d. Parks and grounds maintenance men
4. Forestry personnel
5. Students
6. Ex-officio members
 - a. School board members
 - b. School administrators
 - c. Teachers

PERSONNEL

1. Administration
 - a. There should be an appointed department head in multiple-man departments.
 - b. There should be a written division of responsibilities in accordance with school policy.
 - c. Decision makers should utilize the long-range plan in determining priorities and financing.
2. Teacher certification and professional growth
 - a. Regular staff members must meet state vocational certification requirements.
 - b. Continue professional improvement through in-service, on-the-job training, workshops, and/or advanced degree programs.

3. Teacher load
 - a. Maintain a class size within the capacity of facilities, equipment, work stations, and teacher resources.
 - (1) Additional staff members should be added to the program when 75 student equivalents are reached.
 - (2) Adequate time should be provided for supervising students on work experience programs both during the school year and during the summer; e.g., farm projects, farm placement, school laboratory, off-farm agriculture placement.
 - (3) Time should be provided for planning and preparation.
 4. Source of personnel
 - a. Agriculture education institutions
 - b. Business and industry
 - (1) Forestry
 - (2) Ornamental horticulture
 - (3) Agriculture business
 - (4) Farming and ranching
5. Teachers should be hired on extended contract to provide adequate supervision of students in farming programs, farm placement, cooperative work experience, or simulated work experience.

CURRICULUM

1. Instruction should be provided in the six major subject matter areas in agriculture: animal science, plant science, soil science, agriculture mechanics, and agriculture leadership. Each area should include instruction in related occupations.
2. The curriculum should provide a two-year common core basic to all agricultural occupations, grades 9 and 10 or 10 and 11, including supervised occupational experience.
3. Specialized instruction in agriculture should be provided for students in grades 11 and/or 12. Where students and staff members warrant, ornamental horticulture, forestry, agriculture mechanics, agricultural production, and business management also should be offered.
4. Instruction in agriculture for students in grades 11 and/or 12 should be individualized through supervised occupational experiences.
5. Curriculum should be designed utilizing the curriculum guide for agriculture, and, with the help of the advisory committee should be modeled to fit the needs of the students and the community.
6. Individualized instruction should be a basic part of the curriculum.

7. An interdisciplinary approach should be developed with other academic areas and clusters.

WORK EXPERIENCE

1. All students enrolled in the agriculture cluster program should be involved in one or more types of supervised agriculture work experience programs, such as:
 - a. Supervised farming projects
 - b. Farm placement
 - c. Projects utilizing school facilities; e.g., greenhouse, land lab, forestry lab, school farm, shops
 - d. Cooperative work experience.
2. The instructor must be allowed time to coordinate and supervise students at work stations.
3. Supervisory visits and progress reports should be part of this coordinating and supervising responsibility.
4. Supervised occupational experience should be related to the student's occupational goal and classroom instruction.
5. Students should receive school credit for supervised occupational experience programs.
6. Examples of *work experience* stations:
 - a. Farms and ranches
 - b. Seed and feed dealerships
 - c. Farm tractor and implement dealerships
 - d. Nurseries
 - e. Meat packing plants
 - f. Landscape gardener work sites
 - g. U.S. Forest Service work sites
 - h. Private forestry companies

FACILITIES AND EQUIPMENT

1. Determine the type of facilities and equipment required by the program.
2. Determine the extent to which facilities and equipment are available for instructional purposes in the local community.
3. Survey the local community to determine the extent to which resource personnel are available in agriculture.

4. Coordinate and utilize appropriate local resources to enhance the instructional program.
5. Provide facilities for the program:
 - a. Land laboratory
 - b. School farm
 - c. Greenhouse
 - d. Tree farm
 - e. Shops
 - f. Classrooms
6. Refer to the occupational cluster guide for agriculture.

YOUTH ORGANIZATION

1. A youth organization such as Future Farmers of America should be maintained as an integral part of the total instructional program.
2. A specialized youth program should be developed, when needed, to reflect subdivisions in agriculture; e.g., ornamental horticulture, forestry, agricultural mechanics.
3. A youth organization should be developed on the basis of the following characteristics:
 - a. A knowledge of FFA on the part of every member
 - b. Capable officers and leaders
 - c. Sharing of responsibilities by all members
 - d. A challenging program of activities
 - e. Adequate financing for chapter activities
 - f. Proper equipment and records
 - g. Well-planned, regularly held chapter meetings.
 - h. Support by school officials and community leaders.
4. Advisorship for the youth organization should be provided from the cluster faculty.
5. Advisorship responsibilities should be divided among all instructors in a department.

ARTICULATION

1. Students in grades 9 and/or 10 should be provided with agriculture core curriculum. Farm placement, supervised farming projects, and simulated work experience should be included.
2. A planned program of articulation should be developed between the secondary school and community colleges, vo-tech schools, the military services, and apprenticeship and on-the-job training programs.

3. The agriculture program should be coordinated with the total school program.
4. Agriculture occupational information should be made available to all students K-12.
5. Interdisciplinary teaching of general education (math, communications, science, social studies) should be provided as it applies to the agriculture cluster program.

ACCOUNTING ADVISORY COMMITTEE

Before beginning an accounting cluster program, a school should establish an advisory committee composed of six to ten members who are knowledgeable in the accounting field.

Members should be drawn from the following categories:

1. Students
2. Certified public accountants
3. Bookkeepers
4. Payroll accountants
5. Internal Revenue Service personnel
6. Chain store credit managers
7. Bank cashiers
8. Office managers
9. Data processing personnel
10. Loan company personnel
11. Computer department personnel

PERSONNEL

1. The staff should be large enough to meet the learning and counseling needs of each student.
2. The teacher should have a general background in accounting and business management rather than experience in a specific area.
3. Source of personnel
 - a. Teacher training institutions
 - b. Accounting and business field
4. Teacher must meet state vocational certification requirements.

CURRICULUM

1. Base curriculum on trade groups and their commonalities.

2. Design curriculum utilizing the accounting curriculum cluster guide and, with the help of the advisory committee, model it to fit the needs of the students and the community.
3. Plan the curriculum in blocks of time of two hours or more.
4. Develop individualized instruction.
5. Develop interdisciplinary approach with other disciplines.
6. Allow students to pursue self-determined areas of interest after completing basic cluster requirements.
7. A combination of the office education clusters may be necessary in small schools.
8. Integrate other related subject areas; e.g., data processing, business law, and communications.

WORK EXPERIENCE

1. Cooperative work experience should be part of the curriculum during the twelfth grade.
2. The work experience stations should be oriented to occupational goals.
3. Allow the instructor time to coordinate and supervise student work experience activities.
4. Give students school credit for cooperative work experience programs.
5. Examples of work experience stations:
 - a. Accountant offices
 - b. Income tax consultant offices
 - c. State offices
 - d. Federal offices
 - e. Banks
 - f. Savings and loan offices

FACILITIES AND EQUIPMENT

1. The accounting facility should be an integral part of the total school plant.
2. Community resources should be utilized in the program.
3. Facilities and equipment must be compatible with those in the business world.

YOUTH ORGANIZATION

1. Incorporate youth leadership training in the instructional program.
2. Future Business Leaders of America (FBLA) is the official student organization for business and office education in Oregon. Every student in the cluster program should be urged to join FBLA.
3. A portion of instructional time in each course in the cluster should be devoted to the objectives and aims of FBLA.
4. Every teacher involved in the cluster program should be familiar with FBLA activities on both the state and national levels.

ARTICULATION

1. Basic and introductory courses should be provided.
2. Career awareness activities should be made available to students in elementary grades.
3. Career exploration activities should be offered in junior high school.
4. Basic business courses should be made available in ninth, tenth, and eleventh grades.

CLERICAL ADVISORY COMMITTEE

Before beginning the clerical cluster program, establish an advisory committee of six to ten members who are knowledgeable in the clerical area.

Membership should include people from the following categories:

1. Students
2. Key punch operators
3. Receptionists
4. Bank tellers
5. Clerk-typists
6. Credit managers
7. Credit records clerks
8. Personnel directors

PERSONNEL

1. The staff should be large enough to meet the learning and counseling needs of each student.
2. Sources of personnel
 - a. Business and industry

- b. Teacher training institutions
3. There should be no more than 24 students in clerical cluster class.
4. Each teacher must meet state vocational certification requirements.

CURRICULUM

1. Curriculum should allow for adequate development of basic skills and knowledges for entry-level employment.
2. Behavior objectives and performance goals have been stipulated in each course in the curriculum.
3. Related classroom instruction should be provided for students as work experience.
4. Select curriculum suited to the needs of students, school, and community. A combination of the office education cluster may be necessary in small schools.
5. Provide for simulated office experience.

WORK EXPERIENCE

1. All students should have an opportunity to participate in supervised work experience in the community.
2. Written training agreements and plans should be used for students in work experience.
3. Allow the instructor time to coordinate and supervise student work experience activities.
4. Work experience stations should be oriented to occupational goals.
5. Examples of work experience stations:
 - a. Banks
 - b. Insurance offices
 - c. Government offices
 - d. Credit bureaus

FACILITIES AND EQUIPMENT

1. Provide facilities and equipment (a model office) for simulated office experience.
2. With the exception of typists, rotate positions in the model office each week.
3. Equipment should include a telephone system, duplicating equipment, and typing equipment.

YOUTH ORGANIZATION

1. Incorporate youth leadership training in the instructional program.
2. Future Business Leaders of America (FBLA) is the official student organization for business and office education in Oregon. Every student in the cluster program should be urged to join FBLA.
3. A portion of instructional time in each course in the cluster should be devoted to the objectives and aims of FBLA.
4. Every teacher involved in the cluster program should be familiar with FBLA activities on both the state and national levels.

ARTICULATION

1. Basic and introductory courses should be provided.
2. Career awareness activities should be made available to students in elementary grades.
3. Career exploration activities should be offered in junior high.
4. Basic business courses should be made available in ninth, tenth, and eleventh grades.

CONSTRUCTION ADVISORY COMMITTEE

Before beginning a construction cluster program, a school should establish an advisory committee of six to ten members who are knowledgeable in the construction industry.

Membership should include people from the following categories:

1. Students
2. Workers, such as:
 - a. Carpenters
 - b. Roofers
 - c. Painters
 - d. Pipe tradesmen
 - e. Floor layers
 - f. Iron workers
 - g. Trowel tradesmen
3. Professionals, such as:
 - a. Contractors
 - b. Architects
 - c. Bankers
 - d. Building and loan association officials

4. Trade association members, such as:
 - a. Union representatives
 - b. Building and trades councilmen
 - c. Apprenticeship councilmen
 - d. Home builders association members

PERSONNEL

1. The staff should be large enough to meet the learning and counseling needs of each student.
2. The teacher should have a general background in construction rather than experience restricted to a specific area in the field.
3. Source of personnel
 - a. Construction industry
 - b. Teacher training institutes
4. The teacher should be expected to teach no more than two two-hour classes of construction per day because of the time needed for planning and material preparation.
5. Each teacher must meet state vocational certification requirements.

CURRICULUM

1. Base curriculum on the seven trade groups and their commonalities:
 - a. Carpenter
 - b. Trowel trades
 - c. Iron workers
 - d. Pipe trades
 - e. Floor layer
 - f. Painter
 - g. Roofer
2. Design curriculum, utilizing the occupational cluster guide for building construction and, with the help of the advisory committee, model it to fit the needs of the students and the community.
3. Plan the curriculum in blocks of time of two hours or more.
4. Develop individualized instruction.
5. Develop interdisciplinary approach with other subject areas to promote learning and interest in construction.
6. Encourage students to pursue self-determined areas of special interest after they complete the basic cluster requirements.

WORK EXPERIENCE

1. Cooperative work experience should make up a portion of the curriculum during the twelfth grade.
2. On-site construction should provide work experience and hands-on experience during the duration of the program.
3. The work experience stations should be oriented to the students' occupational goals.
4. The instructor should be given time to coordinate and supervise students on work experience.
5. Students should receive school credit for cooperative work experience programs.
6. Examples of work experience stations:
 - a. Work with construction people in any of the seven basic construction trade groups.
 - b. Work for retail construction supply outlets.

FACILITIES AND EQUIPMENT

1. A work area for construction and prefabrication is essential.
2. An area for on-site construction should be furnished.
3. Tools and equipment should be available for on-site construction.
4. The construction facility should be an integral part of the total school plant.
5. Community resources should be utilized in the construction cluster program.
6. Facilities and equipment must be compatible with those in the construction industry.

YOUTH ORGANIZATION

1. Maintain a youth leadership organization—Vocational Industrial Clubs of America (VICA)—as an integral part of the total instructional program.
2. This youth organization should provide leadership training and promote construction skills.
3. Subdivide VICA responsibility for advisors in multiple departments, consisting of metals, industrial mechanics, construction, and electrical occupations.

4. The VICA program, in addition to technical knowledge and skill development, should include the following:
 - a. Assistance for each VICA member to start his own personal program of self-improvement by encouraging scholarship, citizenship, and participation in VICA.
 - b. Experiences that will serve personal growth, such as leadership conferences and home, school, and community improvement activities.
 - c. Promotion and improvement of relations and understanding among all people.
 - d. Reduction of accidents through the promotion of safety consciousness.
 - e. Making known the critical need for teachers and encouraging capable students to go into the field of industrial education.
 - f. Promoting greater cooperation of youth involved in all areas of career education.
 - g. Improvement of public awareness of the good work done by youth in industrial education.

ARTICULATION

1. Exploratory experiences in industrial arts should be provided for students from seventh through tenth grades.
2. Related classes should include metals, graphic arts, and electricity.
3. Develop a planned program of articulation between the secondary school and the community colleges, vo-tech schools, the military services, and apprenticeship and on-the-job training programs.
4. The construction program should be coordinated with the total school program.
5. Construction occupational information should be made available to all students K-12.

DIVERSIFIED OCCUPATIONS ADVISORY COMMITTEE

Before beginning a diversified occupations program, establish an advisory committee of six to nine members from diverse occupational areas.

Membership might include the following people:

1. Students
2. Union representatives

3. Business representatives
4. Government agency representatives

PERSONNEL

1. Qualifications of coordinator
 - a. Counseling ability with young people.
 - b. Work experience *other* than in education.
 - c. Understanding of manpower needs and the labor market.
 - d. Knowledge of how to sell.
 - e. Has a high energy level.
2. Sources of personnel
 - a. Teacher training institutions
 - b. Business and industry

CURRICULUM

A diversified occupations program is:

1. A vocational instruction program at the high school level tied in with *planned* work experience in a local business.
2. An individualized program in which students learn about an area of occupational interest and are usually employed in a paid work station.
3. A program to meet the occupational interests of eleventh and twelfth grade students in a school without occupational clusters that satisfy those interests.
4. An economical and practical method of meeting the diverse needs of many students with a single program.
5. A program especially designed for small schools but useful in larger high schools where existing vocational programs still leave a number of students with no opportunities for pursuing their career interests.

CURRICULUM

1. The instructional part of the diversified occupations program should provide general kinds of information relating to all employment:
 - a. Job application and success
 - b. Choice of an occupation
 - c. Human relations
 - d. Personal growth
 - e. Personal finances
 - f. Business arithmetic
 - g. Business English

- h. Safety
 - i. Attitude
 - j. Business law
 - k. Credit
 - l. Payroll deductions
 - m. Collective bargaining
2. The instructional part of a diversified occupations program also should allow ample opportunity for students to learn about their personal occupational interest. Projects often should be assigned students in accomplishing this objective.
 3. The cluster should involve diverse instructional activities (e.g., field trips, guest speakers, student projects, role playing).
 4. Regular small-group sessions with students, and sometimes employers, should be conducted to enable candid discussion of mutual concerns relating to the job and/or what is being studied in class.
 5. A credit should be given for the class and a separate credit should be given for work experience. Grades should be determined by school staff with the assistance of the respective employers.
 6. The class part of the program in diversified occupations should normally meet five periods weekly for one full school year.
 7. The ideal class size should be about 15, with no more than 25 students.

SUPERVISED WORK EXPERIENCE

1. Attempt to find employment relating to the interests of those students to be enrolled in the diversified occupations program.
2. Each job should consist of an average of 10-15 hours per week for the duration of the school year. A student should work 400 to 500 hours during the total diversified occupations program.
3. The work experience should occur, if possible, during part of the school day. However, some of it may have to be after school and on weekends.
4. The job should provide a variety of experiences and yet be realistic as possible. At least the minimum wage should be paid to each student in the program. This is a Federal Wage and Hour Commission requirement in many places of business. In *individual* instances nonpaid work experience may be necessary.
5. The coordinator should regularly visit employers and observe student

job performance. He must be out in the community regularly to effectively operate a quality program in diversified occupations and to be instrumental in its further expansion. This means he must have adequate release time to do the job.

6. Individual training agreements and training plans between employer, student, school, and parent should be drawn up at the inception of the program.
7. Employers should be given formal recognition for their cooperation with the program.

ELECTRICAL ADVISORY COMMITTEE

Before beginning an electrical cluster program, establish an advisory committee of six to ten members who are knowledgeable in the electrical industry.

Membership should include people from the following categories:

1. Students
2. Workers, such as:
 - a. Appliance servicemen
 - b. Electronic technicians
 - c. Electricians
 - d. Electronics assemblers
 - e. Power company employees
 - f. Telephone company employees
 - g. Community college electronics teachers
3. Professional, such as:
 - a. Electrical contractors
 - b. Bankers
 - c. Appliance store owner or managers
4. Trade association members, such as:
 - a. Union representatives
 - b. Apprenticeship representatives

PERSONNEL

1. The staff should be large enough to meet the learning and counseling needs of each student.
2. If possible, the teacher should have a general background in the electrical field rather than experience restricted to a specific area.

3. Source of personnel:
 - a. Teacher education institutions
 - b. Industry
 - c. Military service
4. Each teacher must meet state vocational certification requirements.

CURRICULUM

1. Base curriculum on the five trade groups and their commonalities:
 - a. Electronic technician
 - b. Electrician
 - c. Electrical repairman
 - d. Electronic assemblers
 - e. Major appliance serviceman
2. Design curriculum, utilizing the cluster guide, and, with the help of the advisory committee, model it to fit the needs of the students and the community.
3. Plan the curriculum in blocks of time of two hours or more.
4. Develop individualized instruction.
5. Develop an interdisciplinary approach with other subject areas to promote learning and interest in electricity and electronics.
6. Allow students to pursue self-determined areas of interest after completing basic cluster requirements.

WORK EXPERIENCE

1. Cooperative work experience is recommended in addition to class-room time.
2. The work stations should be occupational-goal oriented.
3. The instructor should have time to coordinate and supervise students on work experience.
4. Examples of training stations:
 - a. Local TV and radio repair shops
 - b. District companies
 - c. Telephone company shops
 - d. Electronic firms
 - e. Local appliance shops
 - f. Electrical parts suppliers
 - g. School media service shops
5. Students should receive school credit for cooperative work experience programs.

FACILITIES AND EQUIPMENT

The electrical cluster facility should reflect the key occupations of the industries it represents. The classroom/laboratory environment should make it possible for students to experience in an integrated way the many subject matter components reflected in the curriculum.

Opportunities should be provided to students so they can learn and practice job skills, develop necessary working attitudes, and apply electrical theory and practical knowledges.

1. The electrical facility should be an integral part of the total school plant.
2. Community resources should be utilized to provide learning experiences in the electrical cluster program.
3. Facilities and equipment must be compatible with those of the electrical field.
4. The planning elements which should be considered are:
 - a. Space allocation
 - b. Lighting
 - c. Ventilation
 - d. Personal service facilities
 - e. Selection of machine tools and hand tools
 - f. Placement of equipment
 - g. Special hazards
 - h. Traffic flow
 - i. Safe access
 - j. Electrical power capacity
 - k. Special facility consideration for key occupations; e.g., hot and cold water taps, and drains.
5. The electrical facilities should include:
 - a. Individual study areas
 - b. A group discussion area
 - c. A teacher-student conference area
 - d. A classroom reference library

YOUTH ORGANIZATION

1. Maintain a youth leadership organization (VICA) as an integral part of the total instructional program.
2. This youth organization should provide leadership training and promote electrical skills.

3. Subdivide VICA responsibility for advisors in multiple departments, consisting of metals, industrial mechanics, construction, and electrical occupations.
4. The VICA program, in addition to technical knowledge and skill development, should include the following:
 - a. Assistance for each VICA member to start his own personal program of self-improvement by encouraging scholarship, citizenship, and participation in VICA.
 - b. Experiences that will serve personal growth, such as leadership conferences, and home, school, and community improvement activities.
 - c. Promotion and improvement of relations and understanding among all people.
 - d. Reduction of accidents through the promotion of safety consciousness.
 - e. Making known the critical need for teachers and encouraging capable students to go into the field of industrial education.
 - f. Promoting greater cooperation of youth involved in all areas of career education.
 - g. Improvement of public awareness of the good work done by youth in industrial education.

ARTICULATION

1. Exploratory experiences in industrial arts should be provided for students from seventh through tenth grades.
2. The student should be provided with related courses in basic metal working and machine tools, welding fundamentals, and graphic communications.
3. The school should develop a planned program of articulation between the secondary school and community college, vo-tech school, military service, apprenticeship, and on-the-job training.
4. The electrical program should be coordinated with the total school program.
5. Electrical occupational information should be made available to all students K-12.
6. Refer to the *Electricity-Electronics Occupational Cluster Guide* for further information.

FOOD SERVICE ADVISORY COMMITTEE

Before beginning a food service program, establish an advisory committee composed of six to ten members knowledgeable in the food service industry.

Membership should include people from the following categories:

1. Restaurant operators and employees
2. Food service union personnel
3. Bakers
4. Institutional food service employees
5. Catering service personnel
6. Food service franchise personnel
7. Trade organization personnel
8. Dietetic association personnel
9. Food purveyors
10. Students

The following individuals can serve as ex-officio members of the committee:

1. Vocational directors
2. Guidance personnel
3. Administrators
4. Curriculum directors
5. Teachers of allied supporting services

PERSONNEL

The staff should be large enough to meet the learning and counseling needs of each student.

1. Number
 - a. There should be one food service teacher to:
 - (1) Teach the two-hour course with a maximum of 20 students per class.
 - (2) To supervise the work experience of these students.
 - b. There should be a cafeteria manager or co-worker with released time to team teach the food services courses (all workers in the cafeteria should be instructed in the purpose of the program and should be used as supplementary training personnel at their various stations).
2. Qualifications
 - a. The food services teacher should be a vocationally certificated teacher and should have taken the following courses:

- (1) Three hours of quantity cooking
- (2) Three hours of teaching food services
- b. The cafeteria manager or co-worker should be vocationally certified.
- c. The food services teacher should have work experience in at least one food services related occupation.

CURRICULUM

Curriculum development should be an ongoing process planned to suit the individual student, school, and the industry. Curriculum should include units of the following:

1. Preparing food
2. Health and sanitation
3. Serving the public
4. Safety
5. Management processes
6. Interpersonal communication

Course units described above should not be taught in isolation, but rather be integrated.

WORK EXPERIENCE

The program should offer the student opportunities for work experience that will provide:

1. Work under supervision within a food service establishment.
2. Progress checks with teacher and employer to evaluate the student's accomplishment during and at the end of his experience.
3. At least three of the following activities:
 - a. Observing food service occupations
 - b. Participating in the various forms of food preparation including meat cookery, salad and vegetable preparation, baking and desserts, and short-order cooking
 - c. Working within time schedules and meeting deadlines
 - d. Serving the public
 - e. Assuming some responsibility for supervising other workers.
4. Examples of training stations:
 - a. Restaurants, cafeterias
 - b. Hospitals
 - c. School cafeterias

- d. Bakeries
- e. Motels, hotels

FACILITIES AND EQUIPMENT

The school should provide a classroom for food preparation and storage areas.

1. Facilities

- a. A food services laboratory
- b. A school cafeteria
- c. Local restaurants, cafeterias, or hospital food service
- d. A home economics department in coordination with one of the above three.

2. Equipment

The amount and kind of equipment purchased by the department will depend on the type and volume of the food service. Experience with equipment may be obtained within the school or the community.

YOUTH ORGANIZATION

The development of an occupational youth organization should be encouraged. The local school may provide the opportunity for a Home Economics Related Occupations (HERO) chapter of Future Homemakers of America where there is evidence that students wish to participate in the state and national organization.

COMMUNICATIONS

The food services staff should always be ready to promote or explain the program to school personnel, community residents, parents, and employers.

FOREST PRODUCTS ADVISORY COMMITTEE

Before beginning a forest products cluster program, establish an advisory committee of six to ten members who are knowledgeable in the forest products industry.

Membership should include people from the following categories:

1. Students

2. Workers or representatives from these areas:
 - a. Federal agency personnel (examples)
 - (1) U.S. Forest Service
 - (2) National Park Service
 - (3) Bureau of Land Management
 - b. State agency personnel (examples)
 - (1) Oregon State Board of Forestry
 - (2) Oregon State University
 - (3) Bureau of Labor
 - c. Forestry workers
 - (1) Forester aides
 - (2) Loggers
 - (3) Sawmill workers
 - (4) Veneer and plywood mill workers
 - (5) Composition board mill workers
 - (6) Woodworking machine operators
 - (7) Pulp and paper workers
 - (8) Graders—testers
 - d. Private industry and business personnel (examples)
 - (1) Representatives of the forest products industry
 - (2) Private forest service organizations
 - (3) Labor union representatives
 - e. Community college personnel
 - f. Laymen

PERSONNEL

1. The staff should be large enough to meet the learning and counseling needs of each student.
2. The teacher should have a general background in forest products rather than experience limited to a specific area.
3. Source of personnel
 - a. Forestry graduates
 - b. Forestry and forest products industry
4. Each teacher must meet state vocational certification requirements.

CURRICULUM

1. Base curriculum on the nine occupational groups and their commonalities:
 - a. Forest aide

- b. Logger
 - c. Sawmill worker
 - d. Veneer and plywood mill worker
 - e. Composition board mill worker
 - f. Woodworking machine operator
 - g. Woodworking mill hand
 - h. Pulp and paper mill worker
 - i. Grader—tester
2. Design curriculum, utilizing the occupational cluster guide for forest products, and, with the help of the advisory committee, model it to fit the needs of the students and the community.
 3. Plan the curriculum in blocks of time of two hours or more.
 4. Develop individualized instruction.
 5. Develop an interdisciplinary approach with other subject areas to promote learning and interest in forest products.
 6. Allow students to pursue self-determined areas of interest after completing basic cluster requirements.
 7. See forest products curriculum guide for suggested use and objectives of the forest products cluster.

WORK EXPERIENCE

1. Cooperative work experience should make up a portion of the curriculum during the twelfth grade.
2. Special attention should be paid to hazardous occupations. (See the cluster guide for occupational chart applying to hazardous occupations.)
3. Nonpaid work experience should be provided where laws prevent paid work experience.
4. The work experience stations should be oriented to occupational goals.
5. The instructor should have time to coordinate and supervise students on work experience.
6. Students should receive school credit for cooperative work experience programs.
7. Examples of work experience stations:
 - a. Timber cruising—scaling—grading
 - b. Maintenance shop at logging camp

- c. Woods occupations
- d. Saw mill
- e. Veneer plant
- f. Tree farms
- g. Logging machine dealership

FACILITIES AND EQUIPMENT

- 1. Community resources should be utilized in the forest products cluster program.
- 2. Facilities and equipment must be compatible with those in the world of work.
- 3. For suggested tools and equipment see the cluster guide.

YOUTH ORGANIZATION

- 1. Maintain a youth organization as an integral part of the total instructional program.
- 2. This youth organization should provide leadership training and promote forest products and forestry skills.

ARTICULATION

- 1. Exploratory experiences in industrial arts and other areas should be provided for students from seventh through tenth grades.
- 2. Related classes should include welding, small engines, industrial mechanics, economics, business law, business mathematics, and graphic arts.
- 3. A planned program of articulation should be developed between the secondary school and community college, vocational-technical school, military service, apprenticeship and on-the-job training.
- 4. The forest products program should be coordinated with the total school program.
- 5. Forest product occupational information should be made available to all students K-12.

HEALTH ADVISORY COMMITTEE

Before beginning a health cluster program, establish an advisory committee composed of seven to ten members knowledgeable in the health occupations area.

Potential advisory committee members can be identified through the local nurses association, the local dental association, the local medical association, and the local hospital administrators. If a local association does not exist, then contact state associations.

Membership might include such people as:

1. Students
2. Medical doctors
3. Nurses
4. Dentists
5. Dental assistants
6. Laboratory technicians
7. Medical assistants
8. Occupational therapy personnel

GUIDANCE AND PLACEMENT

1. The career guidance program should provide students with current information regarding entry requirements of the various health occupations.
2. Students should be aware of the competitive nature of selection procedures for admission to post-secondary educational programs for specialized preparation in health occupations.

PERSONNEL PERSONNEL QUALIFICATIONS

1. The instructor or instructors should have professional preparation in one of the recognized health professions or occupations. He/she should have health specialty preparation and current health specialty work experience.
2. In addition, instructional personnel should have knowledge and skills related to the teaching-learning process. Teachers in the program must meet state vocational certification requirements.

STAFFING

1. In a two-instructor program, each teacher should represent a different area of the health occupations field.
2. Provisions should be made for a teaching assistant and/or secretary to assist instructional staff.
3. Provisions should be made for a teacher-student ratio of 20 to 1 maximum, with 15 to 1 as optimum.

FINANCING

The local district should provide the total program budget covering equipment, facilities, in-service education, travel, student uniforms, instructional materials, and other expenditures.

CURRICULUM CONTENT AREAS

1. Areas of instruction should include social sciences, life sciences, and health service skills.
2. Junior level instruction should include two hours of instruction per day and the senior level should include three hours per day.

CLINICAL EXPERIENCE

1. Clinical experience must be an integral part of the curriculum. Clinical experience should be offered at the senior year for one semester.
2. During clinical experience, a two-hour seminar should be provided weekly. Specific objectives of the seminar need to be defined with the student and the training station supervisor.
3. Students should rotate through three training stations during the clinical experience period.
4. Liability (malpractice) insurance for both student and instructor should be provided as well as such insurance as Workmen's Compensation.

CONTRACTUAL AGREEMENT

Contractual agreements should be developed between the educational agency and the community agency/individual. Guidelines for contractual agreements are available from the Oregon State Department of Education. Contractual agreements should be negotiated three to six months prior to the time clinical experience is to be implemented. It is recommended that all agreements be reviewed by legal counsel.

ARTICULATION

1. Create in students K-6 an awareness of the need for workers in the health care field.
2. Provide students career information in grades eight or nine, including an exploratory course unit specific to the health cluster in grades seven to ten.

3. Provide for students in grades 11 and 12 a career education cluster program preparing them for job entry and/or post-secondary education.
4. Develop avenues that will permit students to move from high school to community college programs with advanced placement granted through equivalency and/or proficiency evaluations.
5. Utilize joint planning sessions involving the health occupations advisory committees and faculty from the colleges and high school.

YOUTH ORGANIZATION

A vocational youth organization should be an integral and co-curricular aspect of the health occupations cluster program. A vocational youth organization for health occupations, exclusively, does not exist at this time. The subject is presently under study at the state and national levels in cooperation with the Health Occupations Education Division of the American Vocational Association. Until an organization is officially recognized as the appropriate youth organization for health occupations education students, teachers may wish to have students participate in locally formed health career clubs or other organizations which will best support their career goals.

FACILITIES

1. Include sufficient classroom and laboratory space, restrooms, lockers, dressing facilities, and storage. Include within the learning resource center, health related texts, periodicals, and audiovisual aids for use in the library and/or the department.
2. Include an office with a telephone for the coordinator-instructor.
3. Provide enough equipment to allow students to practice basic health service skills.
4. Facilities should be evaluated periodically for updating of resource material and equipment.

INDUSTRIAL MECHANICS ADVISORY COMMITTEE

Before beginning an industrial mechanics cluster program, a school should establish an advisory committee consisting of six to ten members knowledgeable in the industrial mechanics industry.

Membership should include the following persons:

1. Student leaders selected by peers
2. Employers or employees from these areas:
 - a. Aircraft maintenance mechanics
 - b. Automotive mechanics
 - c. Construction equipment mechanics
 - d. Diesel mechanics
 - e. Garage foremen
 - f. Industrial or heavy duty appliance mechanics
 - g. Millwright factory maintenancemen
 - h. Office machine servicemen
 - i. Recreational vehicle (small engine) mechanics
 - j. Refrigeration/air conditioning mechanics
 - k. Stationary engineers (building maintenancemen)
3. Professionals and businessmen:
 - a. Community college mechanics teachers
 - b. Automobile dealers
 - c. Office machine distributors salesmen
 - d. Career counselors
4. Trade association personnel:
 - a. Union representatives
 - b. Apprenticeship councilmen
 - c. Department of employment personnel

PERSONNEL

1. The staff should be large enough to meet the learning and counseling needs of each student.
2. Industrial mechanical staff must meet the requirements for state vocational teacher certification.
3. Multiple departments should work as a team with all teachers having written division of responsibilities. Where school policy permits, department heads should be appointed.
4. Additional staff members should be added to the program when 70 student equivalents are reached. As the load grows, help should be added (aides, instructors, etc.). Staff loads should be limited to 14-18 students per class.
5. Situations which may alter load levels are:
 - a. Teaching schedule
 - b. Type of class (cluster or exploratory)
 - c. Supervised work experience
 - d. VICA

- e. Individualization of instruction
 - f. Laboratory work
6. Class load should be maintained in keeping with: work stations, interest, safety, facilities, teacher ability, and requirements of the class.
 7. Potential cluster teachers should have in-service classes prior to, or in conjunction with, first-year teaching and work experience.
 8. The industrial mechanics curriculum instructor should prepare and instruct programs in basic skills and knowledge in the broad industrial mechanical area for student entry into a job or post-high school or university programs.
 9. Major responsibilities:
 - a. Instructional planning and development
 - (1) Plan performance-based learning activities including vocational youth leadership.
 - (2) Attend advisory committee meetings.
 - (3) Work with other specialists in the area.
 - (4) Utilize specialized personnel.
 - (5) Plan effectively and carefully.
 - b. Classroom management
 - (1) Keep the shop neat and interesting.
 - (2) Maintain student records effectively.
 - (3) Maintain school equipment.
 - (4) Teach and apply job safety.
 - (5) Promote student interest, motivation and self-direction.
 - (6) Utilize different methods of teaching.
 - (7) Utilize effective multi-media resources.
 - (8) Promote a classroom environment that is supportive to instruction.
 10. Experience (Skill and Knowledge Requirements)
 - a. Mechanical systems
 - b. Electrical systems
 - c. Fluid power
 - d. Mechanical maintenance
 - e. Inspection and testing
 - f. Techniques of mechanical maintenance
 - g. Basic recording systems
 - h. Mechanical occupations
 11. Source of personnel
 - a. Industrial mechanics industry

- b. Teacher training institutions
 - c. Teacher reference
12. Industrial mechanics instructor should be on an extended contract.

CURRICULUM

1. Emphasis should be placed on common skills and knowledges that are included in the cluster guide, using a variety of tools, equipment, materials, and mechanical systems.
2. The cluster guide should be the basis for curriculum development and implementation.
3. A variety of mechanical equipment should be used. The program should not be restricted to the automobile.
4. Instructional program
 - a. Mechanical systems
 - b. Electrical systems
 - c. Fluid power systems
 - d. Inspection and testing
 - e. Hand and power tools
 - f. Techniques of mechanical maintenance
 - g. Leadership and related communication skills
5. Eleventh grade—vocational broad-based experience; 120 class minutes per day, or equivalent.
6. Twelfth grade—more specialized experience and work experience; 180 class minutes per day or equivalent, including cooperative work experience.
7. An interdisciplinary approach should be developed with other disciplines to promote learning and interest in industrial mechanics.
8. Students should be encouraged to pursue areas of special interest after completing basic cluster requirements.

WORK EXPERIENCE

1. In order to prepare students for employment, cooperative work experience should be made part of the industrial mechanics cluster. This experience may be paid or nonpaid, depending on local conditions and student needs.
2. Students on work experience should be supervised by the industrial mechanical instructor. Work experience is a part of the total learning

- process; the expertise of the industrial mechanics instructor is required to provide a liaison between the school and industry.
3. Work experience with supportive related vocational classes is recommended at grade 12.
 - a. Cooperative work experience should occur in the first and/or second semester for a minimum of 180 minutes per day.
 - b. Cooperative work experience should be in lieu of or in conjunction with 180 minutes per day industrial mechanics class instruction.
 - c. Eleventh grade industrial mechanics class and/or demonstrated skills and knowledge should be a prerequisite for the industrial mechanics cooperative work experience.
 - d. Students should be rotated in various types of cooperative work experience leading to occupation in industrial mechanics.
 4. Students should receive school credit for cooperative work experience programs.
 5. Examples of work experience stations:
 - a. Automotive repair shop
 - b. New car dealership
 - c. Office machine repair shop
 - d. Service station
 - e. Tractor repair shop
 - f. Commercial building maintenance business
 - g. Heavy duty equipment repair shop
 - h. School bus garage
 - i. Commercial appliance center
 - j. Hydraulic manufacturing or repair shop
 - k. Mill or manufacturing plant
 - l. Commercial refrigeration shop
 - m. Commercial truck garage

FACILITIES AND EQUIPMENT

1. The industrial mechanics facility should be an integral part of the total school plant.
2. Community resources should be utilized in the industrial mechanics cluster program.
3. Facilities and equipment must be compatible with those in the world of work.

4. There should be adequate space and facilities available to facilitate the industrial mechanical instruction program.
5. There should be adequate class/lab equipment available for student training purposes in:
 - a. Mechanical systems
 - b. Electrical systems
 - c. Fluid power systems
 - d. Inspection and testing
 - e. Hand and power tools
 - f. Techniques of mechanical maintenance
 - g. Related communication skills

YOUTH ORGANIZATION

1. Maintain a youth leadership organization (VICA) as an integral part of the total instructional program.
2. This youth organization should provide leadership training and promote industrial mechanical skills.
3. Subdivide VICA responsibility for advisors in multiple departments, consisting of metals, industrial mechanics, construction, and electrical occupations.
4. The VICA program, in addition to technical knowledge and skill development, should include the following:
 - a. Assistance for each VICA member to start his own personal program of self-improvement by encouraging scholarship, citizenship, and participation in VICA.
 - b. Experiences that will serve personal growth such as leadership conferences, and home, school, and community improvement activities.
 - c. Promotion and improvement of relations and understanding among all people.
 - d. Reduction of accidents through the promotion of safety consciousness.
 - e. Making known the critical need for teachers and encouraging capable students to go into the field of industrial education.
 - f. Promoting greater cooperation of youth involved in all areas of career education.
 - g. Improvement of public awareness of the good work done by youth in industrial education.

ARTICULATION

1. Exploratory experiences in industrial arts should be provided for students from seventh through tenth grades.
2. Related classes should include metals, graphic arts, and electricity.
3. The school should develop a planned program of articulation between the secondary school and community college, vo-tech school, military service, apprenticeship, and on-the-job training.
4. The industrial mechanics program should be coordinated with the total school program.
5. Industrial mechanics occupational information should be made available to all students K-12.

MARKETING

ADVISORY COMMITTEE

Before beginning a marketing program, establish an advisory committee composed of eight to twelve members knowledgeable in the marketing field.

Membership should include such people as:

1. Chairman of the Retail Merchants Association
2. Chamber of commerce president or designate
3. Banking representative
4. Manager, local employment office
5. Supermarket representative
6. Department store representative
7. Wholesale business representative
8. Representative of management, small business
9. Labor: business agent retail clerks or other labor officials
10. School counselor
11. Marketing student
12. Parent of student in program
13. Real estate business representative
14. Industrial purchasing agent
15. Insurance business representative
16. Training station sponsors
17. Community college representative

Examples of specific occupations from the previous list might include:

1. Real estate salesman
2. Purchasing agent
3. Receiving clerk

4. Shipping clerk
5. Route salesman (wholesale)
6. Industrial salesman
7. Salesman (retail)
8. Ticket agent
9. Stock control clerk
10. Buyer (retail)
11. Displayman
12. New account teller
13. Insurance agent
14. Automobile service station attendant
15. Checker/cashier
16. Copywriter
17. Hardware salesman
18. Small business owner/manager

PERSONNEL

1. The staff should be large enough to meet the learning and counseling needs of each student.
2. Instructors should have received adequate distributive education methods training.
3. Time and travel expenses should be provided to instructors for teacher in-service activities and participation in Distributive Education Clubs of America (DECA) activities.
4. Instructors should be on an extended contract.
5. Instructors should participate in workshops, in-service classes, and conferences to stay abreast of business and educational program development.
6. Teachers must meet state certification requirements.

CURRICULUM

1. Appropriate allied supporting courses should be available to students.
2. Learning activities should encourage students to explore occupations within the marketing career area.
3. The curriculum should be designed utilizing the cluster guide and, with the help of the advisory committee, it should be modeled to fit the needs of the students and the community.
4. Class laboratory and project activities of students should be coordinated with the marketing cluster curriculum guide.

WORK EXPERIENCE

1. Priority should be given to obtaining career-related training stations for students.
2. Training agreements and plans should be utilized.
3. The instructor should be provided adequate time to coordinate and supervise students on work experience.
4. Orientation of the employers should take place before student assignment.
5. Examples of work experience stations:
 - a. Department stores
 - b. Supermarkets
 - c. Advertising agencies
 - d. Real estate agencies
 - e. Petroleum industry
 - f. Wholesale businesses
 - g. Banking establishments
 - h. Lumber yards—building supplies
 - i. Hardware stores
 - j. Variety stores

FACILITIES AND EQUIPMENT

1. Adequate class/lab space for the marketing instructional program should be provided.
2. Adequate class/lab equipment should be provided.
3. A copy of *A Store for Your School* should be obtained from the Oregon State Department of Education.

YOUTH ORGANIZATION

1. DECA (Distributive Education Clubs of America) should be an integral part of the instructional program.
2. Encouragement and support should be provided to students for participation in state, regional and national DECA activities.

ARTICULATION

1. A planned program of curriculum articulation should exist between the high school and the community college.
2. Exploratory experiences should be available in the area of marketing for junior high students.

METALS

ADVISORY COMMITTEE

Before beginning a metals cluster program, a school should establish an advisory committee of six to ten members knowledgeable in the metals industry.

Membership should include representatives from the following categories:

1. Students
2. Workers or representatives from:
 - a. Machine shops
 - b. Auto body shops
 - c. Sheet metal shops
 - d. Welding shops
 - e. Foundries
 - f. Metallurgical concerns
3. Contractors
4. Bankers
5. Loan association officers
6. Union representatives
7. Apprenticeship council members

PERSONNEL

1. The staff should be large enough to meet the learning and counseling needs of each student.
2. Each teacher should have a general background in the metals industry.
3. Source of personnel:
 - a. Metals industry
 - b. Teacher-training institutions
4. Teachers must meet state vocational certification requirements.

CURRICULUM

1. Base curriculum on the commonalities of the seven metal trade groups.
 - a. Machinist
 - b. Foundry worker
 - c. Auto body worker
 - d. Welder, combination
 - e. Welder, arc
 - f. Sheet metal worker

- g. Production machinist
- 2. Design curriculum, utilizing the cluster guide and, with the help of the advisory committee, model it to fit the needs of students and the community.
- 3. Plan the curriculum in blocks of time of two hours or more.
- 4. Develop individualized instruction.
- 5. Develop an interdisciplinary approach with other disciplines in order to promote learning and interest in metals.
- 6. Encourage students to pursue areas of special interest after completing basic cluster requirements.

WORK EXPERIENCE

- 1. Cooperative work experience should make up a portion of the curriculum during the twelfth grade.
- 2. The work stations should be occupational-goal oriented.
- 3. The instructor should be provided time to coordinate and supervise students on work experience.
- 4. Students should receive school credit for cooperative work experience programs.
- 5. Examples of work experience stations:
 - a. Auto body shops
 - b. Sheet metal shops
 - c. Welding shops
 - d. Foundries
 - e. Machine shops

FACILITIES AND EQUIPMENT

- 1. The metal cluster facility should be an integral part of the total school plant.
- 2. Community resources should be utilized in the metals cluster program.
- 3. Facilities and equipment must be compatible with those in the world of work.
- 4. The following should be considered when planning metal cluster facilities:
 - a. Space allocation
 - b. Lighting

- c. Ventilation
 - d. Personal service facilities
 - e. Selection of machine tools and hand tools
 - f. Special hazards
 - g. Placement of equipment
 - h. Traffic flow
 - i. Safe access
5. For more details, see the cluster guide.

YOUTH ORGANIZATION

1. Maintain a youth leadership organization (VICA) as an integral part of the total instructional program.
2. This youth organization should provide leadership training and promote metal skills.
3. Subdivide VICA responsibility for advisors in multiple departments consisting of metals, industrial mechanics, construction, and electrical occupations.
4. The VICA program, in addition to technical knowledge and skill development, should include the following:
 - a. Assistance for each VICA member to start his own personal program of self-improvement by encouraging scholarship, citizenship, and participation in VICA.
 - b. Experiences that will serve personal growth, such as leadership conferences, and home, school, and community improvement activities.
 - c. Promotion and improvement of relations and understanding among all people.
 - d. Reduction of accidents through the promotion of safety consciousness.
 - e. Making known the critical need for teachers and encouraging capable students to go into the field of industrial education.
 - f. Promoting greater cooperation of youth involved in all areas of career education.
 - g. Improvement of public awareness of the good work done by youth in industrial education.

ARTICULATION

1. Exploratory experiences in industrial arts should be provided for students from seventh through tenth grades.

2. Related classes should include construction, graphic arts, and electricity.
3. A planned program of articulation should be developed between the secondary school and community college, vo-tech school, military service, apprenticeship, and on-the-job training.
4. The metals cluster program should be coordinated with the total school program.
5. Metals industry occupational information should be made available to all students K-12.
6. Refer to the cluster guide for more information on suggested related programs.

SERVICE OCCUPATIONS

At present, the occupational cluster guide for service occupations is being developed.

After a complete analysis of key occupations and related skills has been completed, appropriate information will be made available.

STENO-SECRETARIAL ADVISORY COMMITTEE

Before beginning a steno-secretarial cluster program, establish an advisory committee of six to ten members knowledgeable in the secretarial field.

Membership should include representatives from the following groups:

1. Secretarial students
2. Employment security managers
3. Executive secretaries
4. Secretaries
5. Stenographers
6. Legal secretaries
7. Office managers
8. Personnel directors
9. Trade association members

PERSONNEL

1. The staff should be large enough to meet the learning and counseling needs of each student.
2. Each teacher should have a general background in the secretarial field.
3. Sources of personnel

- a. Business and industry
 - b. Teacher training institutions
4. Teachers must meet state vocational certification requirements.

CURRICULUM

1. With the consultation of the advisory committee develop curriculum using the cluster guide.
2. Select curriculum suited to the needs of students, school and community. Combinations of the office education clusters may be necessary in small schools.
3. Develop individualized instruction.
4. Develop an interdisciplinary approach with other disciplines in order to promote learning and interest in steno-secretarial.
5. The program should stimulate, as much as possible, current practices and procedures found in a modern office.

WORK EXPERIENCE

1. Work experience directly related to the instructional program should be provided.
2. Examples of work experience stations:
 - a. Law offices
 - b. Physicians offices
 - c. Purchasing departments
 - d. State/federal offices
3. The instructor should be provided time to coordinate and supervise work experience.
4. Students should receive school credit for cooperative work experience programs.

FACILITIES

AND EQUIPMENT

1. Provide facilities and equipment for simulated office experience.
2. Recommended facilities and equipment lists can be found in the cluster guide.

YOUTH ORGANIZATION

1. Youth leadership training should be part of the instructional program.

2. Future Business Leaders of America (FBLA) is the official student organization for business and office education in Oregon.
3. Every student enrolled in the cluster program should be urged to join FBLA.
4. A portion of instructional time in each cluster should be devoted to the objectives and aims of FBLA.
5. Every teacher involved in the approved cluster curriculum should be familiar with FBLA activities on both the state and national level.

ARTICULATION

1. Basic and introductory courses should be provided.
2. Career awareness should be provided in elementary grades.
3. Career exploration activities should be offered in junior high.
4. Basic business courses should be offered in ninth, tenth, and eleventh grades.